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INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION
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BOISE BASIN EXPERIMENTAL FOREST
IDAHO CITY, IDAHO
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by

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Forest Techn.

INTRODUCTION

The Boise Basin Experimental Forest continued to be of considerable value to researchers, resource managers, and forest visitors in 1971. New and extended research studies again used the forest as a "base" from which to work. Administrative activities were dominated by the Pine-Thorn Timber Sale and a 396-acre thinning contract. Forest visitors continued to use the Experimental Forest because of its close proximity to Boise and the Treasure Valley. Projected use of the forest will probably increase because of its unique geographical location and characteristic resource representation of southern Idaho.

RESEARCH ACTIVITIES

Timber Management Research

Conversion of Old-Growth Ponderosa Pine (529)^{1/} -- During the fall of 1971 a contract thinning crew thinned 376 acres in the B.P. unit at a cost of \$12,321.40. Thinning was completed in compartments 31, 32, 33, 35, and 36 and compartment 34 has 15 acres to be thinned in 1972. Kittams was the contracting officer's representative and spent 52 hours administering work progress to ensure the quality and acceptability of the work performed.

Thinning Ponderosa Pine (461) --- Thinning plots 7-1, 7-2, 15-1, 15-2, 23-1, and 23-2 were measured in 1971.

^{1/} Study numbers in parentheses.

Ponderosa Pine Production Study (424).--A post logging mortality cruise was taken in compartment 7 and in the spring of 1972 other required measurements will be made.

Planting Douglas-fir Without Site Preparation (568).--This study was established by R. A. Ryker and J. Kittams in June, 1971 in the Bannock Creek Salvage Sale. The objective was to compare survival and growth of trees on areas with no site preparation to areas with site preparation. Twenty blocks were installed, mapped, and planted with Lucky Peak Nursery "3-0" Douglas-fir seedlings. Survival was recorded weekly until mid-September, and results indicated that site preparation may increase first year survival on north and northeast facing aspects, but not on west and northwest aspects. The study will be expanded in 1972 to include the following objectives:

1. Compare the survival and growth of Douglas-fir seedlings planted on two different aspects.
2. Compare the survival and growth of trees using different degrees of site preparation.
3. Determine the relationship of seedling height between soil water potential, plant water potential, and light intensity with survival and growth of trees, aspect, and site preparation.

Watershed Research

A rock weathering and erosion study was continued on the 1-year-old portion of road number 10304 that goes through the Pine-Thorn Timber Sale.

The study plots in the Bannock Creek fenced enclosure were maintained and second year evaluations were made of plant survival and growth rates for use in erosion control work.

Forest Influences

Insects.--A few scattered, small groups of trees were killed by insects on the forest, but no serious outbreak developed in 1971.

Dendroctonus brevicomis (western pine beetle), Dendroctonus pseudotsugae (Douglas-fir bark beetle), and Ips pini (pine engraver) were responsible for the scattered infestations.

Dwarf mistletoe.--Arceuthobium douglasii is widespread in the Bannock-Pine Unit where the most Douglas-fir is found. Timber stand improvement work in the Pine-Thorn Timber Sale should remove a large portion of the infested areas. Other stand improvement projects in the unit will seek to control the infestation in subsequent years.

Fire.--Three class "A" fires were suppressed on the B.B.E.F. in 1971 by Idaho City R.D. personnel. June 6 a fire of unknown cause in the Headquarters Unit was located as in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 27, T6N R5E. A lightning caused fire on July 2 was in the NE $\frac{1}{4}$ SW $\frac{1}{4}$, Section 8, T5N, R6E. Also in the Bannock Creek drainage was a man caused fire on August 4, which was located in the SE $\frac{1}{4}$, SE $\frac{1}{4}$, Section 8, T5N R6E.

Streamflow.--The U.S. Geological Survey stopped use of their stream gauge on Bannock Creek in September, 1971 because of a lack of funds. The stream gauge will be removed by them in the spring of 1972.

Table 1. Idaho City precipitation and temperature, 1971

<u>Month</u>	<u>Monthly precipitation</u> (Inches)	<u>Mean monthly temperature</u> (Degrees F.)
January	5.96	24.7
February	2.21	28.9
March	3.90	32.2
April	0.64	43.4
May	0.95	52.6
June	3.62	56.9
July	0.45	65.8
August	0.02	69.4
September	0.68	51.3
October	1.53	44.3
November	3.66	33.0
December	5.43	23.6

ADMINISTRATIVE ACTIVITIES

Timber Sales

Pine-Thorn Timber Sale.--Logging was completed in 1971 on the B.B.E.F. portion of the sale. The volume removed from the Experimental Forest and the Cottonwood R.D. was not tallied separately, but the B.B.E.F. cruising estimates of 7 MM board feet P.P. and 2 MM board feet D.F. appear to be close. The release cutting removed most trees 12" D.B.H. and over. Work progressed on schedule with few problems. Some trees over 12" D.B.H. were not removed, and many young mistletoe infested D.F. are in the residual stand. These trees will be thinned by Cottonwood R.D. crews or removed in 1972 by Idaho City R.D. green slip sales.

Bull Pine Commercial Thinning.--Forty-four acres in the Bear Run Unit were logged in December, 1971. Hoff Lumber Co. of Horseshoe Bend, Idaho removed 220 MBF of second growth ponderosa pine from the snow covered sale area with a minimum of site or residual stand damage. The possibility of similar sales in the near future is doubtful because of the low value of bull pine and contract requirements of piling slash at landings to reduce fire hazard.

Timber Stand Improvement

Contract Thinning.--Ruben Baier from Redding, California was the successful bidder in 1970 on 396 acres to be thinned in the Bannock-Pine Unit. The cost was \$32.10 per acre for 235 acres of light thinning and \$62.50 per acre for 161 acres of heavy thinning. Thinning was done

in the fall of 1970 and 1971, but the contract was terminated in December, 1971 due to deep snow. The remaining 20 acres not completed in 1971 will be done by a Cottonwood R.D. thinning crew in 1972.

N.Y.C. Thinning Crew.--A 5-man Neighborhood Youth Corps crew, supervised by a Cottonwood R.D. foreman, thinned over 20 acres in Pine Creek drainage of the Pine-Thorn Lumber Sale, B.B.E.F. The crew stayed in a B.B.E.F. building at Idaho City and while working they learned about some of the Forest Service projects.

Pine-Thorn Lumber Sale.--Many areas on the 1,180 sale are now stocked with a mixed stand of ponderosa pine and Douglas-fir that are less than 4" D.B.H. or are infested with mistletoe. An estimated 300 acres of the sale will be thinned in the summer and fall by a Cottonwood R.D. thinning crew. Ponderosa pine will not be cut until late August to prevent insect invasion.

Bannock Creek Salvage Sale.--In the fall of 1972 a regeneration survey will be made in the clearcut area to determine present stocking, relative age, and growth. Some permanent plots will be established along with the other studies in the area so changes in vegetation structure can be noted. An Idaho City R.D. Youth Conservation Corps crew of 5 to 10 young men and women may spend several weeks in the area thinning smaller trees and mistletoe infested Douglas-fir during the summer of 1972.

Green Slip Sales.--Dead trees were again sold in 1971 by the Idaho City R.D. on green slip sales to local small log users and for commercial

fire wood. Dead trees are not removed from compartments included in the P.P.P.S. Post Logging Mortality Study (424) until after the 2-year cruises are completed.

Forest Roads

System Roads.--2.5 miles of SL 12 road #10304 was maintained in 1971 by the contractor of the Pine-Thorn Timber Sale. The remaining B.B.E.F. system roads were maintained by the Boise National Forest. The Walla-Walla Gulch Road #10517 is scheduled for construction in 1973 at an estimated cost of \$16,000. The 2.0 mile road will provide access to the southeast portion of the Bear Run Unit.

Non-System Roads.--Work roads on the Pine-Thorn Timber Sale were seeded and had water bars constructed by the Cottonwood R.D. in the fall of 1971. Other work roads were cleared by Station personnel when access was needed to study areas.

Boise Basin Experiment Station Headquarters

Improvements and Maintenance.--Idaho City R.D. had its Youth Conservation Corps crew scrape and spot paint the B.B.E.F. buildings. The crew also thinned trees and brush around the buildings as a fire prevention measure. A defective waterheater was replaced in the bunkhouse in the fall of 1971.

Building Occupancy.--Chip Nardi and Barry Sheakley from the Idaho City Ranger District occupied the north and south dwelling during 1971. A Neighborhood Youth Conservation crew of 5 young men and the Cottonwood R.D. foreman stayed in the lodge during November and December while

doing T.S.I. work in the Pine-Thorn Timber Sale. Mal Furniss and a small crew stayed in the bunkhouse for a week in July while testing some insect attractants.